

AMENDMENTS TO THE CLAIMS

1-7 (Canceled)

8. (Currently Amended) A method ~~for treating a disease condition or deficiency through gene delivery~~ of nucleic acid delivery to target cells of a subject comprising the step of administering a conjugating agent-nucleic acid complex where the conjugating agent comprises A-R₁-Q-Z, where A is a hydrophilic moiety that illustratively includes C₀-C₄ alkyl-hydroxy, -substituted amino, -quaternary amino, -sulfonate, -phosphonate, -carboxylate or a target ligand; where ~~A-R₁~~ R₁ is a cholesterol derivative; a C₈-C₂₄ alkyl; C₈-C₂₄ heteroatom substituted alkyl wherein the heteroatom is O, N, or S; or a bile acid; where Q is a sulfur, a secondary amine or oxygen having a nonessential N terminal amino acid region nitrogen, or oxygen; and Z is a polyionic peptide.

9. (Previously Presented) The method of claim 8, wherein said administration is oral.

10. (Previously Presented) The method of claim 8, wherein nucleic acid of said complex is expressed as a protein in said target cells.

11. (Previously Presented) The method of claim 10 wherein said protein is secreted from said target cells.

12. (Previously Presented) The method of claim 10 wherein said protein is of a class selected from the group consisting of: proteases, pituitary hormones, protease inhibitors, growth factors, cytokines, somatomedians, chemokines, immunoglobulins, gonadotrophins, interleukins, chemotactins, interferons, and lipid-binding proteins.

13. (Currently Amended) The method of claim 8 wherein ~~said~~ nucleic acid of said complex is selected from the group consisting of: DNA, RNA, mRNA, miRNA, ribozyme, ~~RNAse~~, and antisense sequences.

14. (Previously Presented) The method of claim 8 wherein said complex is administered as part of a pharmaceutical composition.

15. (Previously Presented) The method of claim 14 wherein said pharmaceutical composition comprises an active therapeutic compound.

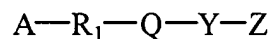
16. (Currently Amended) The method of claim 15 wherein said therapeutic ~~agent~~ compound is selected from the group consisting of: an antibiotic, a gamma or beta radiation emitting species, an anti-inflammatory, an antitumoral, an antiviral, an antibody, a hormone, an enzyme, antigenic peptide and antigenic protein.

17. (Currently Amended) The method of claim 8 wherein ~~A-R1~~ R₁ is a cholesterol derivative.

18. (Currently Amended) The method of claim ~~17~~ 8 wherein said A is a hydrophilic moiety.

19. (Previously Presented) The method of claim 8, wherein said target cells are gastrointestinal cells.

20. (Currently Amended) A ~~gene~~ nucleic acid delivery composition comprising a conjugating agent-nucleic acid complex having the formula:



where ~~A—R₁~~ R₁ is a cholesterol derivative; a C₈-C₂₄ alkyl; C₈-C₂₄ heteroatom substituted alkyl wherein the heteroatom is O, N or S; or a bile acid; where A is a hydrophilic moiety [[A]] that illustratively includes C₀-C₄ alkyl-hydroxy, -substituted amino, -quaternary amino, -sulfonate, -phosphonate, ~~and~~ -carboxylate ~~and~~ or a target ligand; where Q is sulfur, nitrogen, or oxygen; where Y is a linker peptide having a negative, neutral, or positive charge; and where Z is a polyionic peptide.

21. (Previously Presented) The composition of claim 20 wherein said cholesterol derivative is selected from the group consisting of: cholestanol, coprostanol, cholic acid, glycocholic acid, chenodeoxycholic acid, desoxycholic acid, glycochenodeoxycholic acid, taurocholic acid, and taurochenodeoxycholic acid.

22. (Previously Presented) The composition of claim 20 wherein said cholesterol derivative is a cholic acid or a deoxycholic acid.

23. (Currently Amended) The composition of claim 20 wherein said A ~~derivative~~ is hydroxyl C₀-C₄ alkyl-hydroxy.

24. (Currently Amended) The composition of claim 20 wherein said Q ~~derivative~~ is oxygen.

25. (Canceled)

26. (Previously Presented) The composition of claim 20 wherein Z is polycationic.

27. (Previously Presented) The composition of claim 26 wherein Z contains at least six residues.

28. (Canceled)

29. (Canceled)

30. (Currently Amended) A commercial package comprising a composition of ~~Formula I~~ A-R₁-Q-Z according to claim 8 as an active ingredient together with instructions for the use thereof as a ~~gene~~ nucleic acid delivery agent to a subject.